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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/658,983	09/10/2003	Dale John Shidla	200310483-1	3966

22879 7590 08/12/2008

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FORT COLLINS, CO 80527-2400

EXAMINER

DAVE, JYOTI D

ART UNIT	PAPER NUMBER
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2191

NOTIFICATION DATE	DELIVERY MODE
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08/12/2008

ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

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Office Action Summary	Application No.	Applicant(s)	
	10/658,983	SHIDLA ET AL.	
	Examiner	Art Unit	
	JYOTI D. DAVE	2191	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 5/9/08.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-18 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-18 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 11 September 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--------------------------------------------------------------------------------------|-------------------------------------------------------------------|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Response to Argument

Applicant's arguments have been fully considered but they are not persuasive for the reasons set forth below:

Claims 1-3 and 18:

1. Applicant contends that Metzger does not disclose "opportunistically scheduling a redundant operation on one of the functional units that would otherwise be idle during a cycle. However, Metzger discloses a function unit be detected as idle for a period of time exceeding a threshold. The threshold time can be interpreted to equal the time it takes for a cycle to finish.
2. Applicant contends Metzger does not disclose "redundant operations" scheduled that would otherwise be idle. However, the instructions are chose for appropriate registers. This can mean that the registers are specified for only certain functionality instructions, thus scheduling "redundant operations"
3. Applicant contends that Quach does not disclose opportunistically scheduling a redundant operation on one of the functional units that would otherwise be idle during a cycle. However, Examiner used the specific limiations disclosed in Quach, the "multiple functional units of a same type", to combine with the invention disclosed in Metzger. Therefore, as stated above, Meztger discloses an opportunistically scheduling a redundant operation on one of the functional units that would otherwise be idle during a cycle.

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4. Applicant contends that neither Metzger or Quach disclose scheduling a comparison of results. However, Quach does disclose a comparison of results (see col. 6, lines 1-7, results generated by clusters [identical instructions] are compared by check unit and an error is indicated if results are different). Also, Raina discloses scheduling a comparison of results as stated in the 2/7/2007 Office Action in reference to claim 5-10 and 14-15.

Claims 4-17:

1. Applicant contends that claims 4-17 are patentably distinguished over Metzger in view of Quach for at least the reasons discussed in the Response to the Office Action dated 5/9/2008 in relation to claims 1 and 2. However, for the reasons stated above, Applicant's arguments are not persuasive.

Arguments made by Applicant have been considered. However, Examiner respectfully maintains the rejection.

Conclusion

Applicant's amendments necessitated the new grounds of rejection presented in this office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP §706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

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Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jyoti D. Dave whose telephone number is 571-270-1470. The examiner can normally be reached on 7:30 AM to 5 PM Mon-Fri, Alt Fri. Eastern Time.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Wei Zhen can be reached on 571-272-3708. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Jyoti D Dave/
Examiner, Art Unit 2191

8/5/2008